

Fig. 1

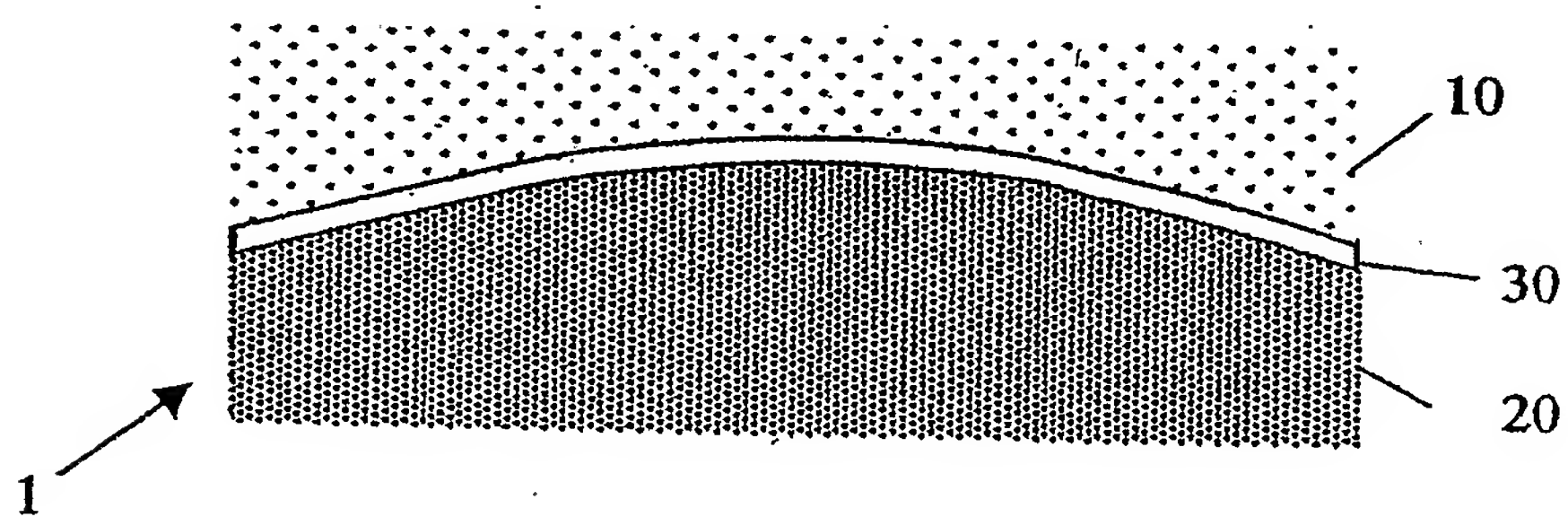


Fig. 2a

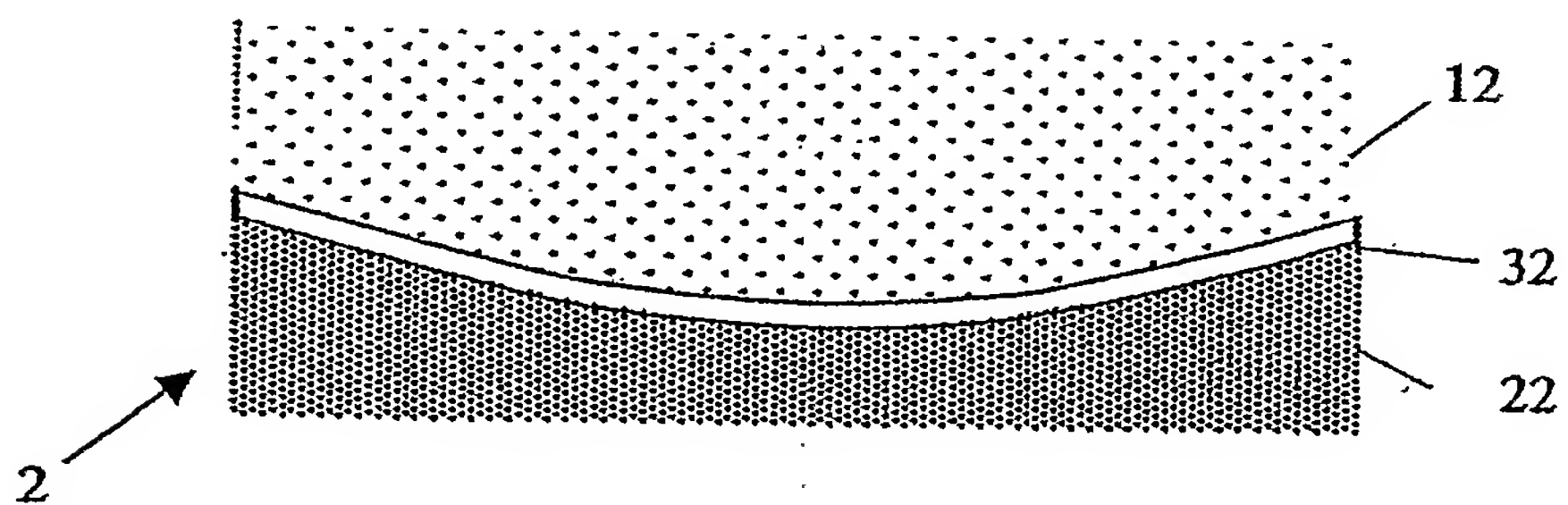


Fig. 2b

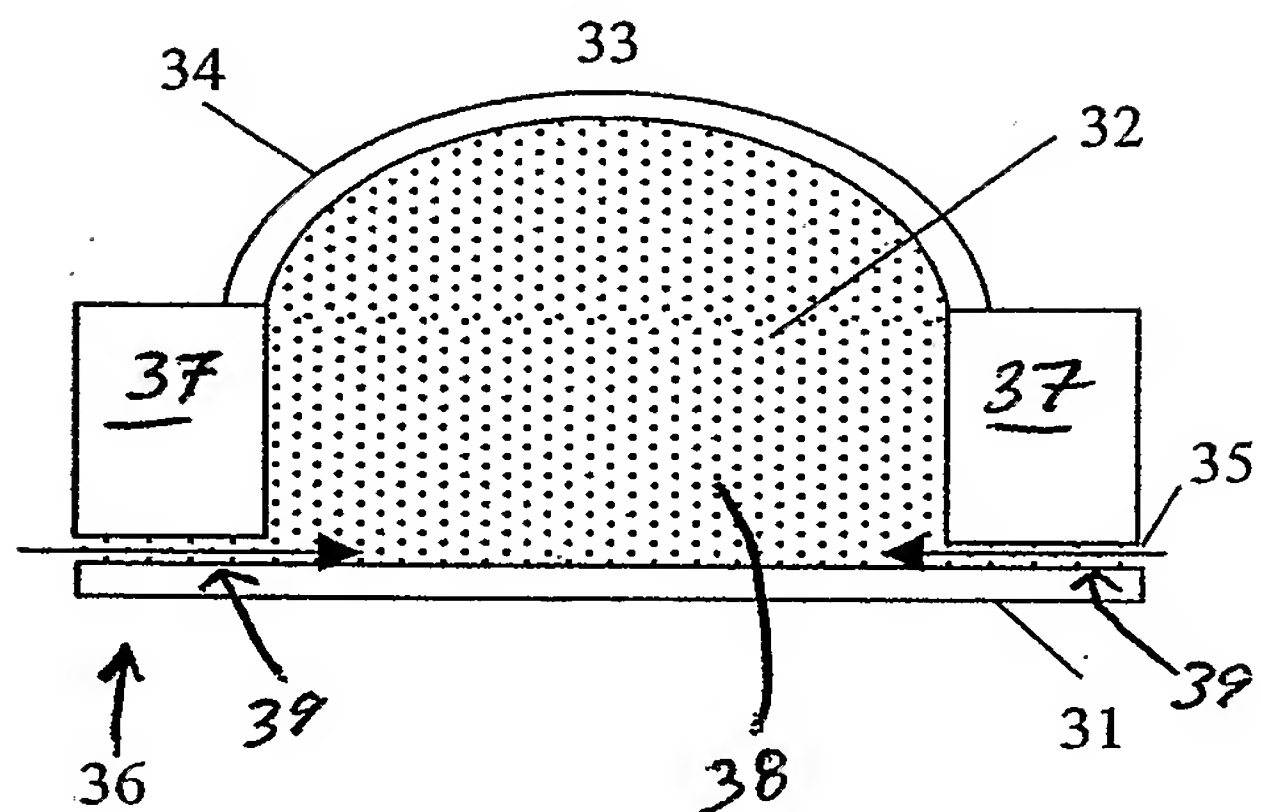


Fig. 3a

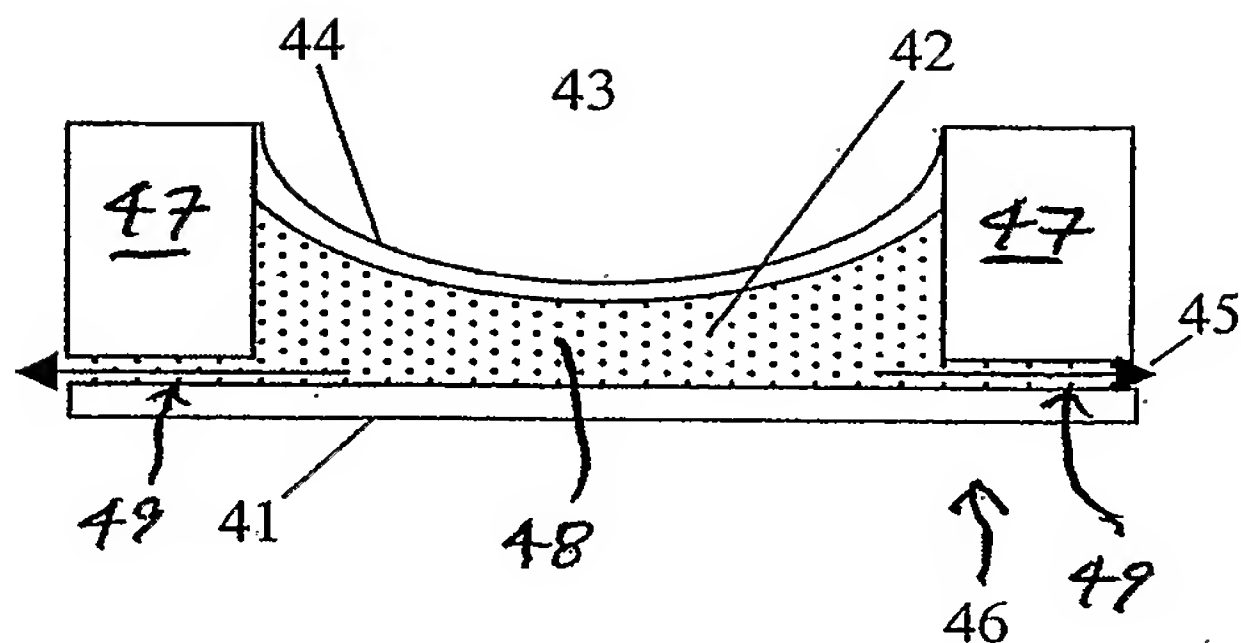


Fig. 3b

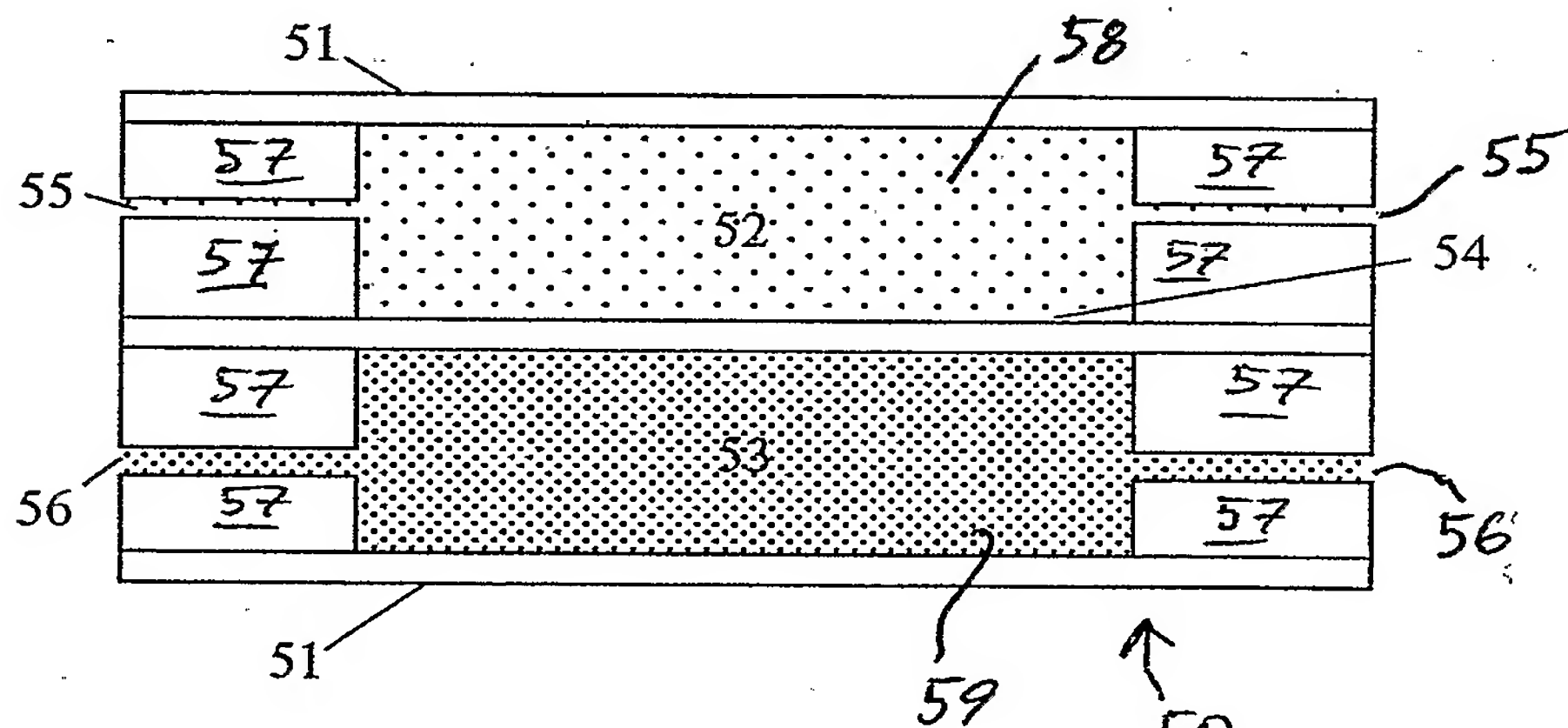


Fig. 4a

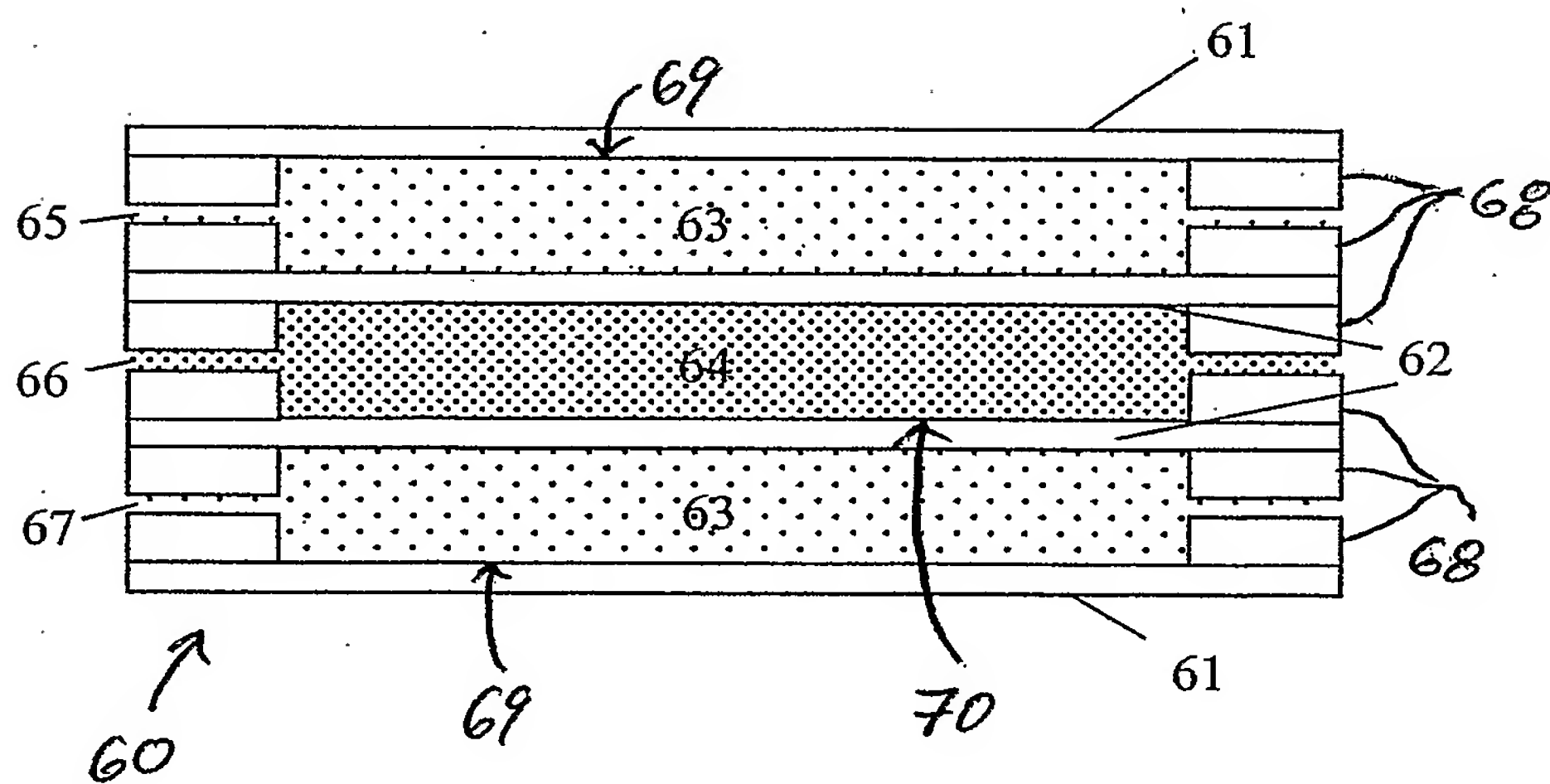


Fig. 4b

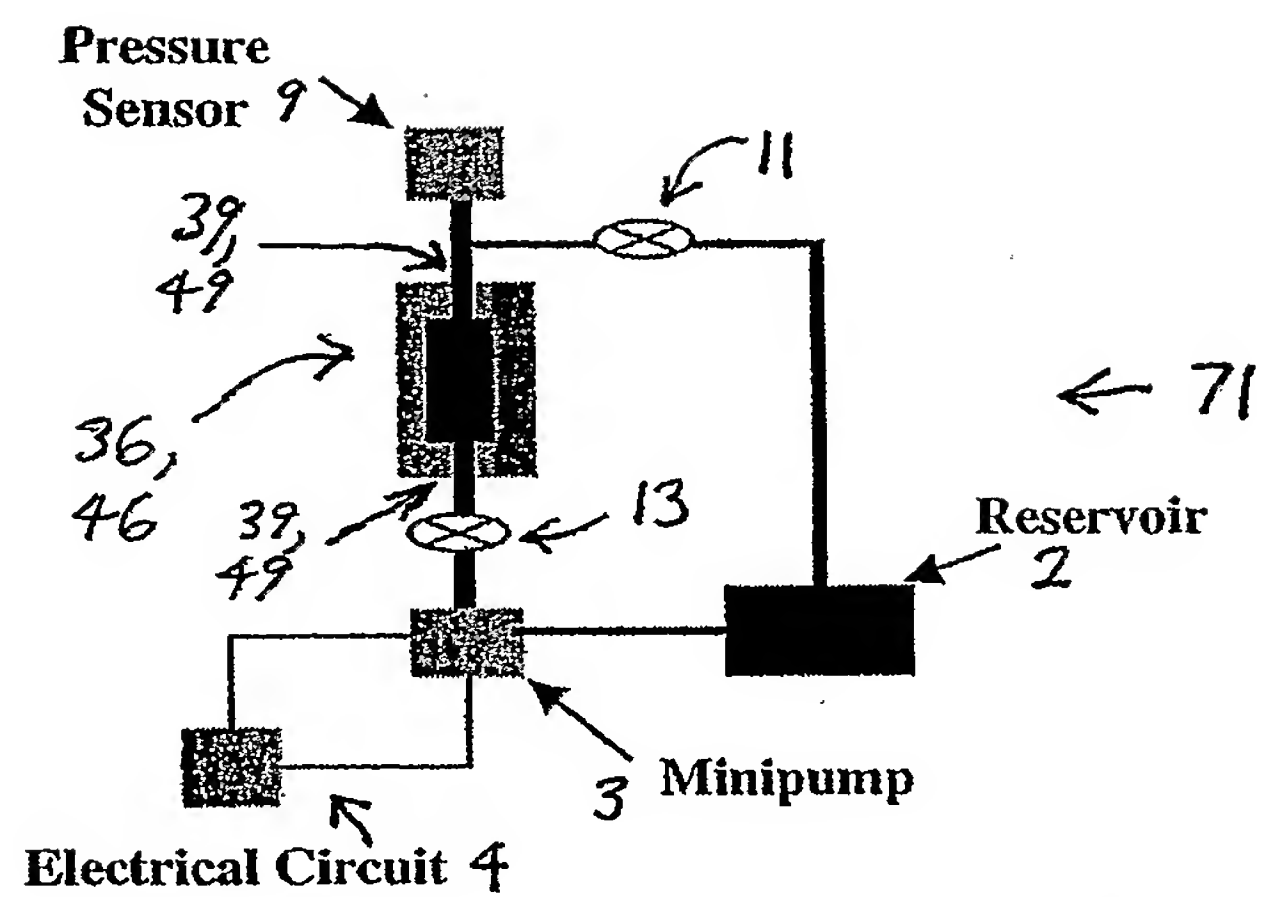
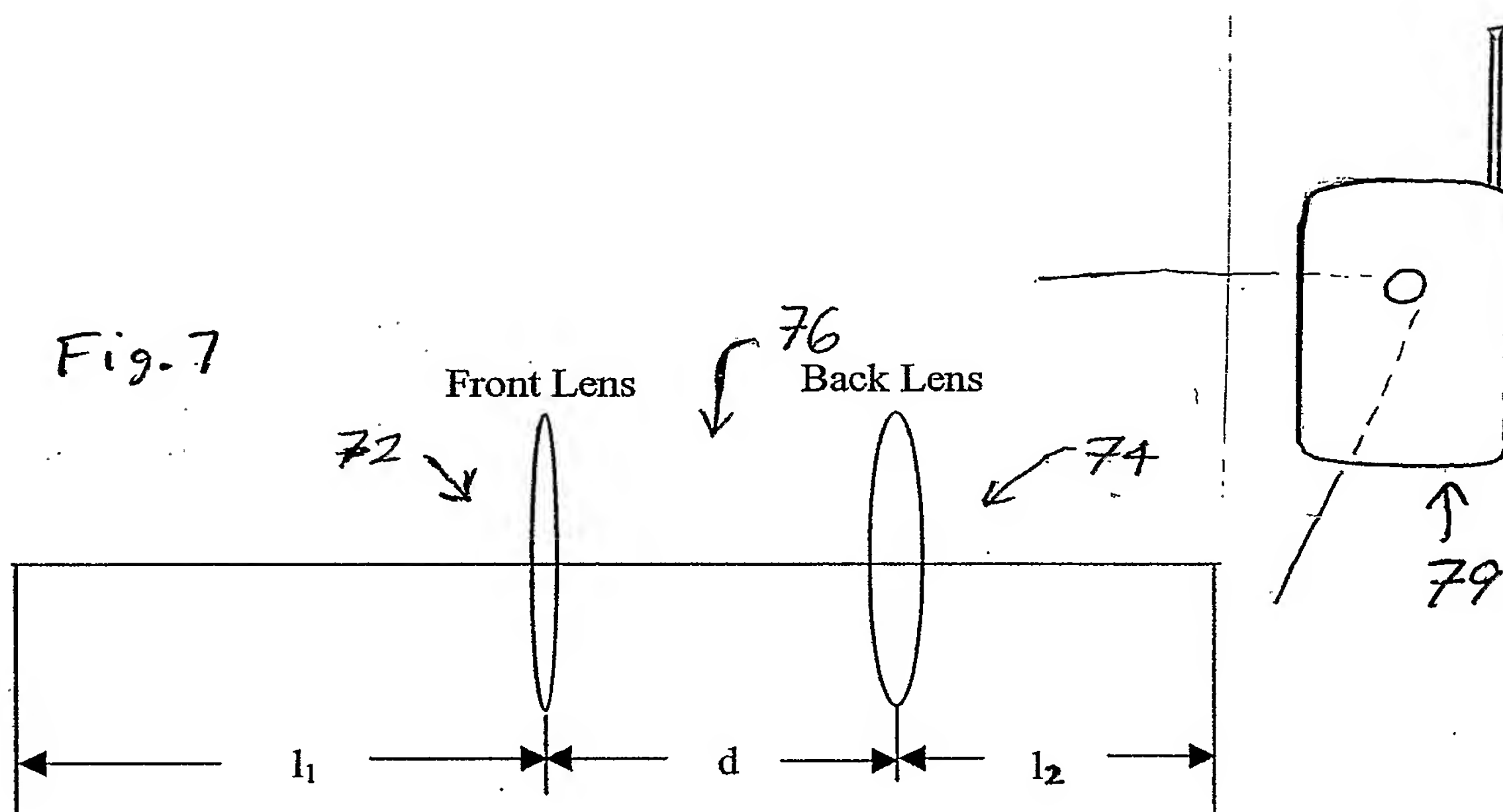
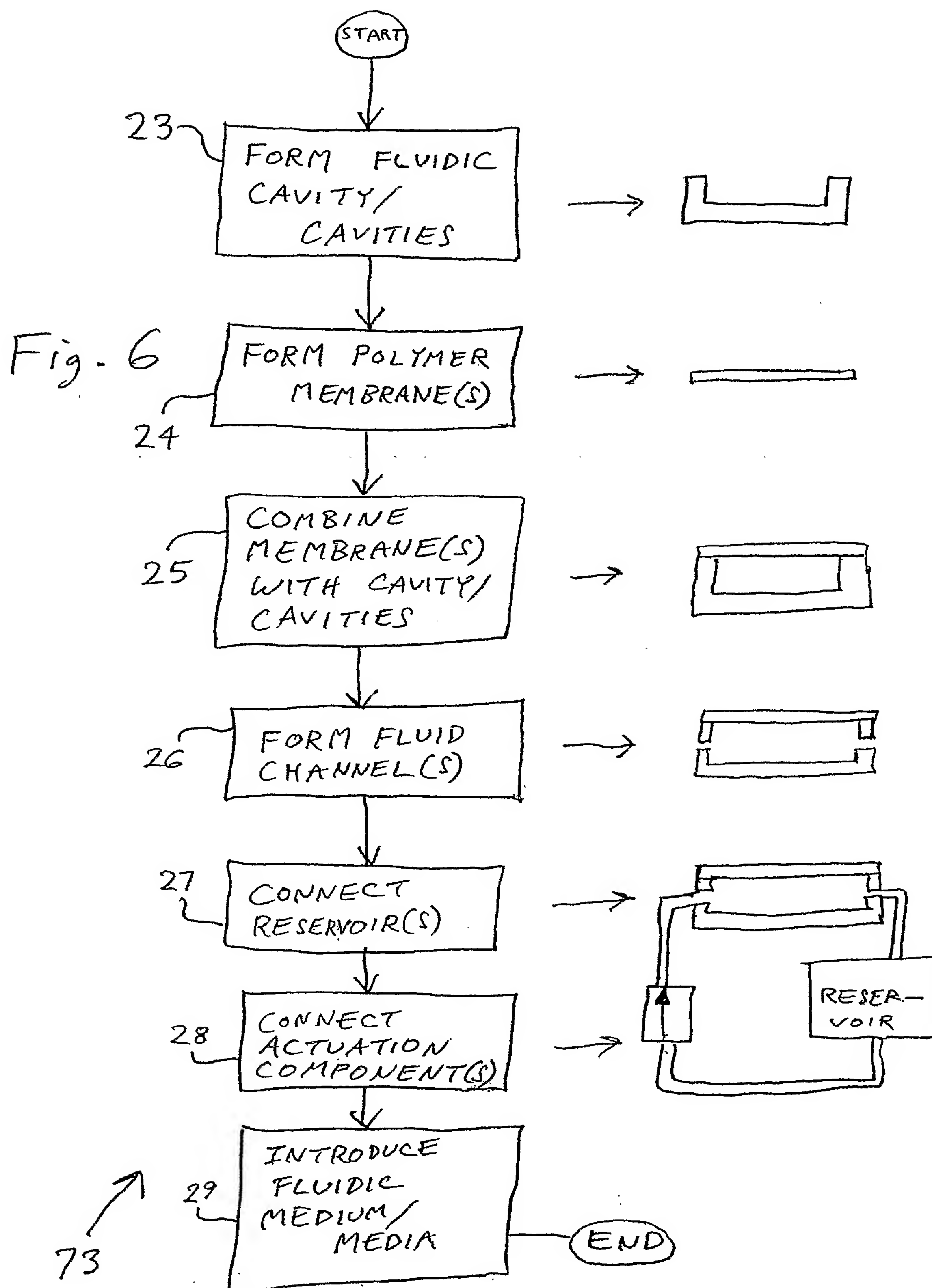


Fig. 5



l_1 : object distance,
 l_2 : image plane distance,
 d : lens spacing,
 f_1 : focal distance of the front (object side) lens,
 f_2 : focal distance of the back (image side) lens,
 $\Phi_1 = 1/f_1$,
 $\Phi_2 = 1/f_2$,
 $\Phi_z = 1/f$: power of the zoom lens system,
 ZR (zoom ratio)



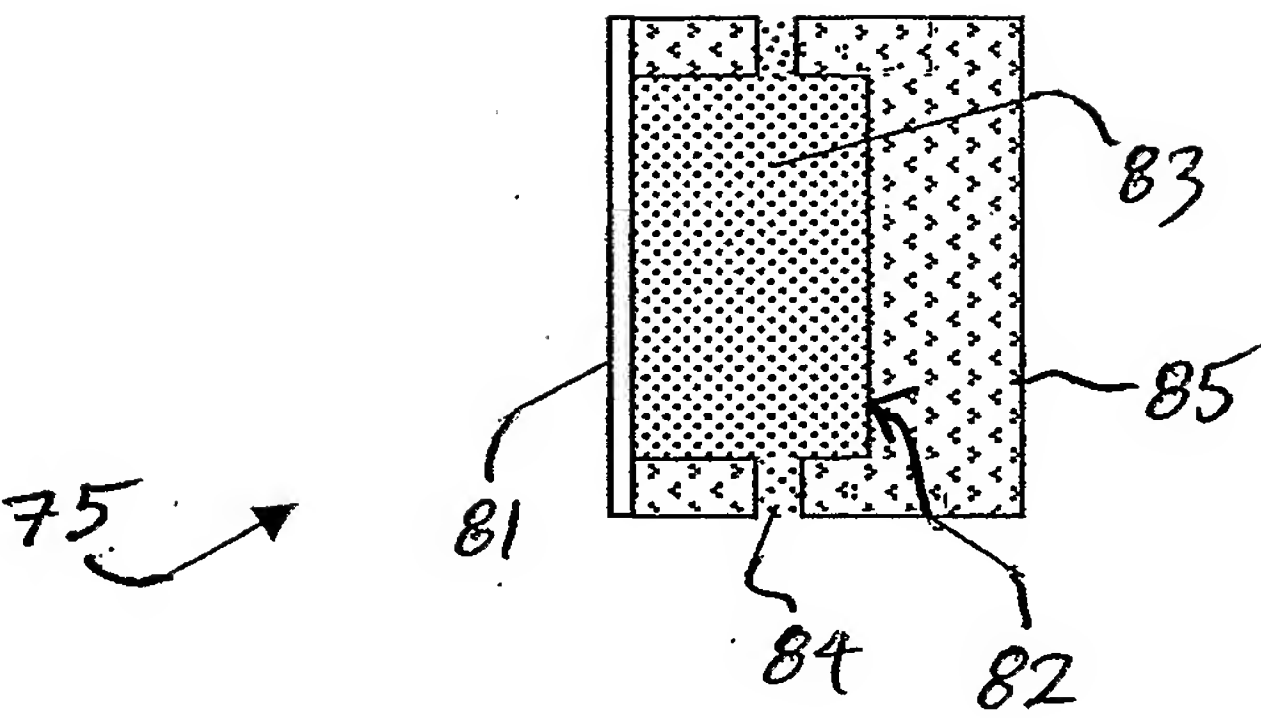


Fig. 8

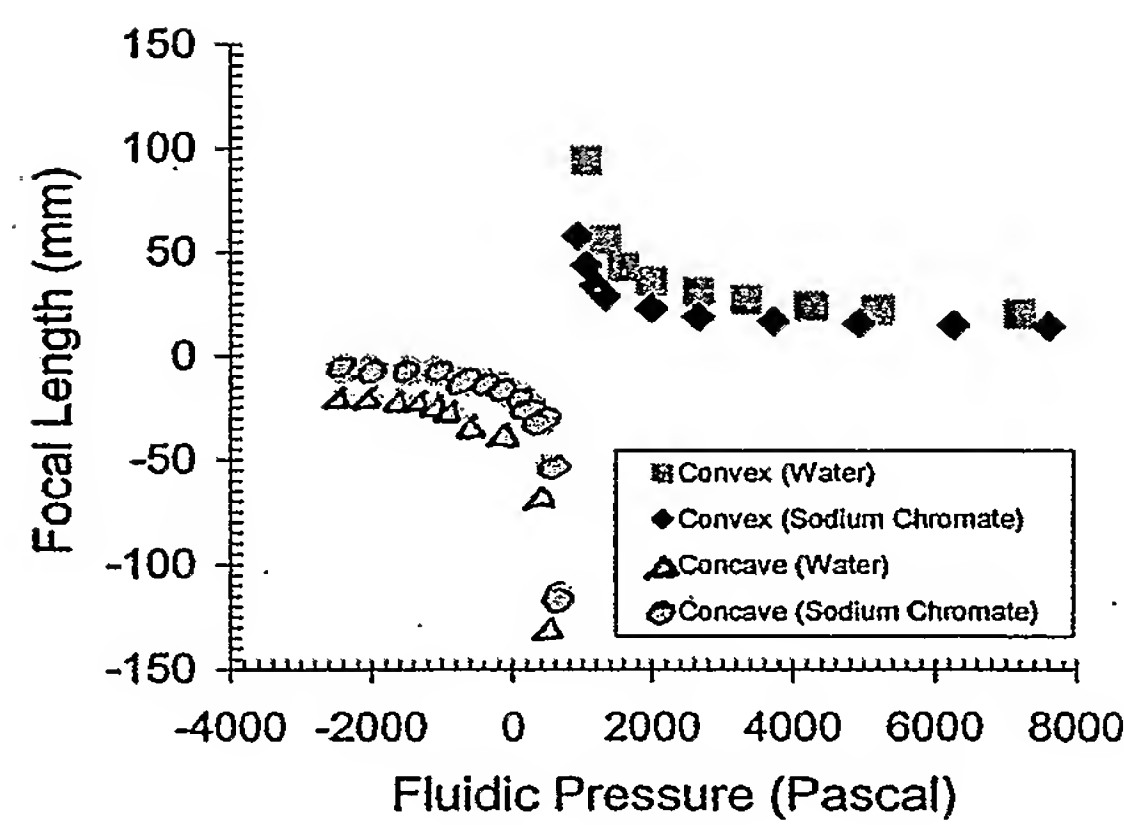


Fig. 9

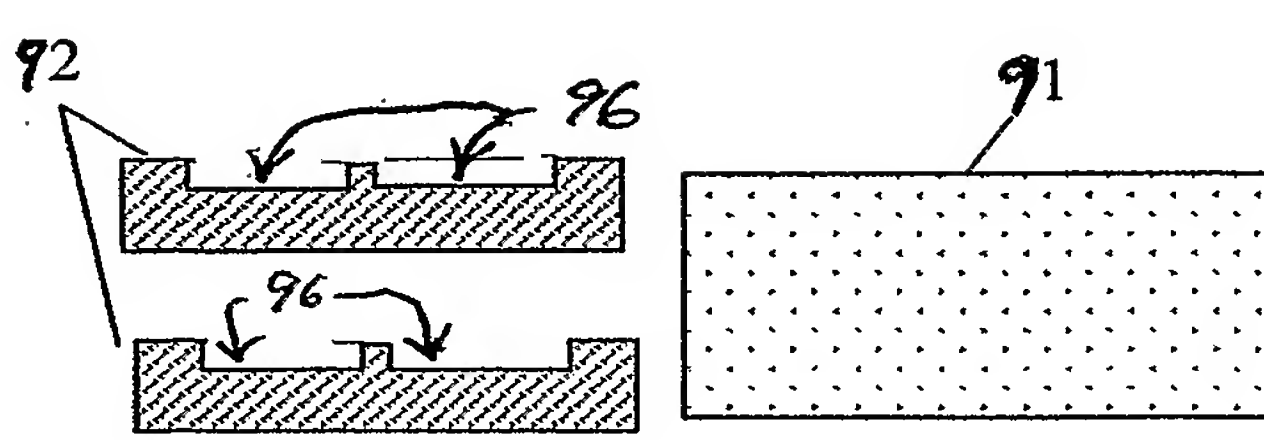


Fig. 10a

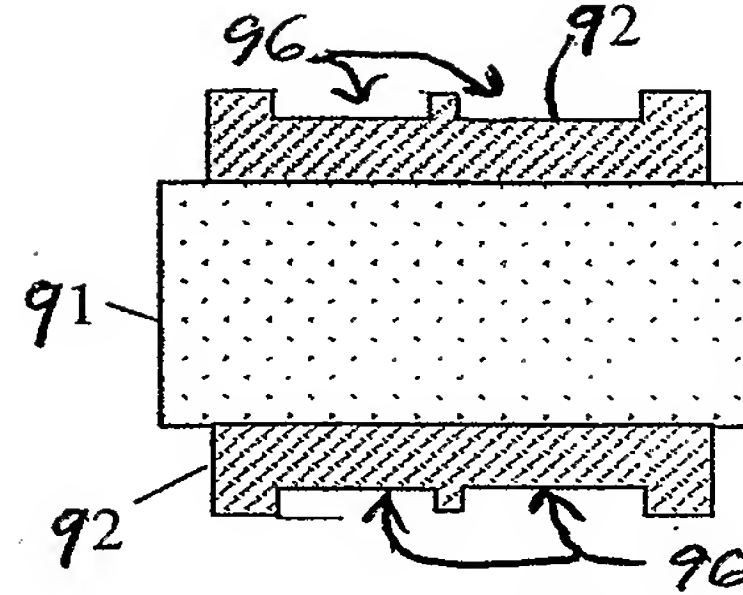


Fig. 10b

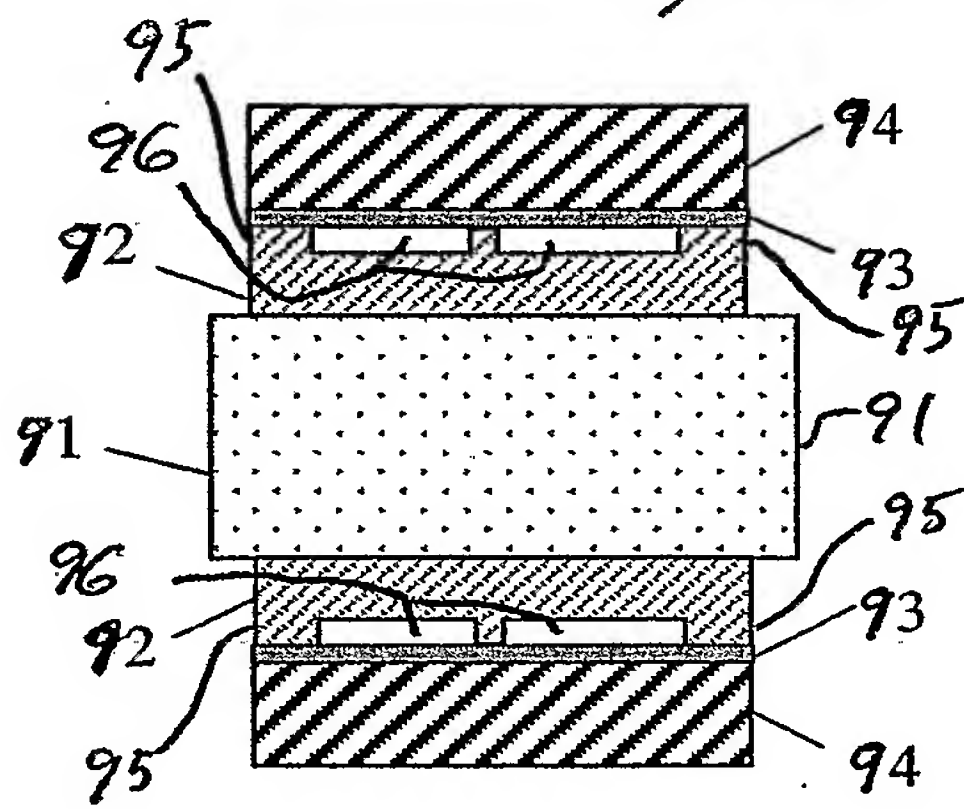


Fig. 10c

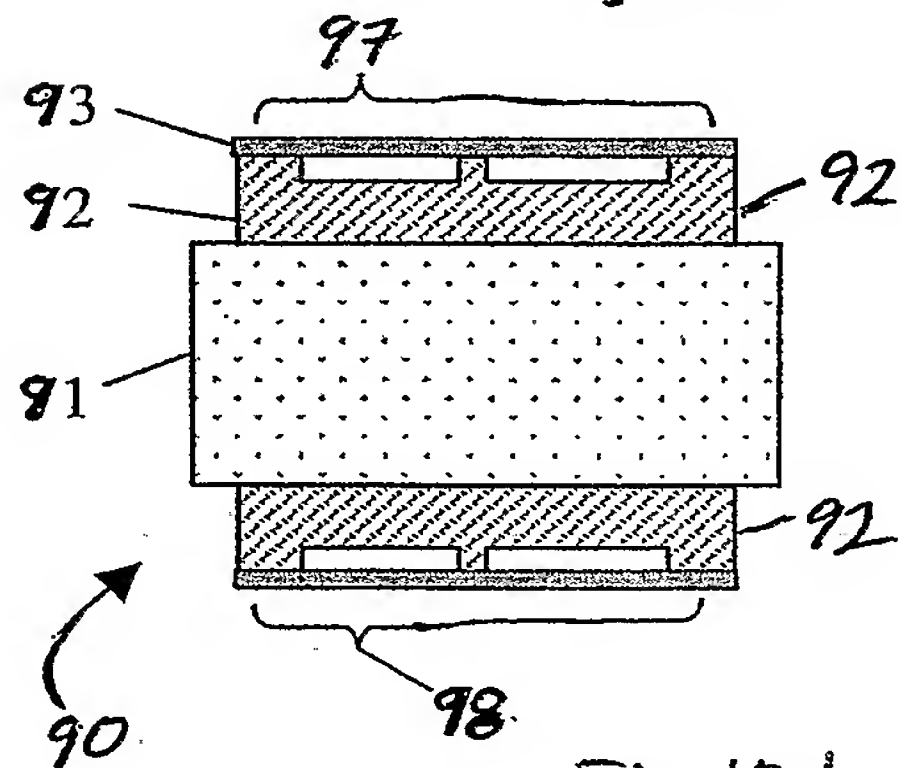


Fig. 10d

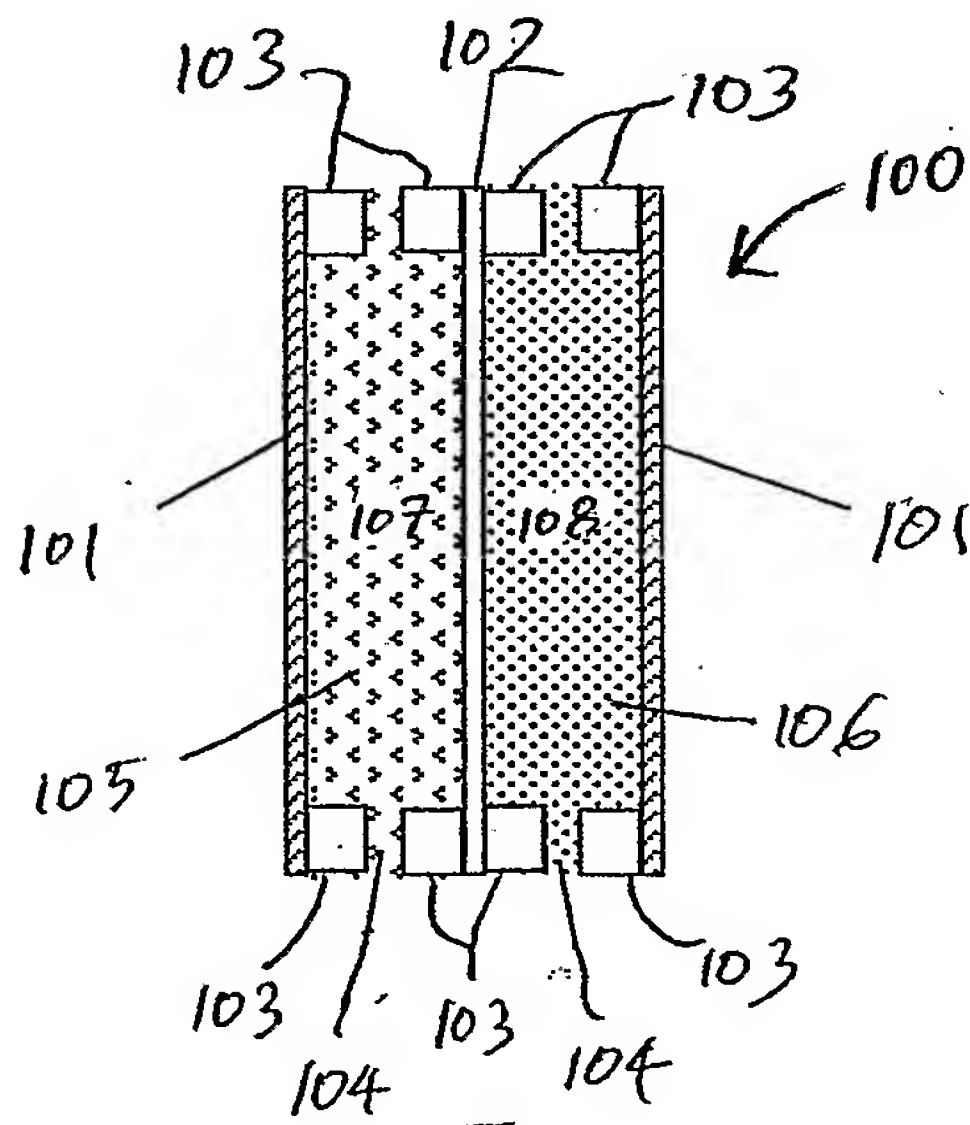


Fig. 11

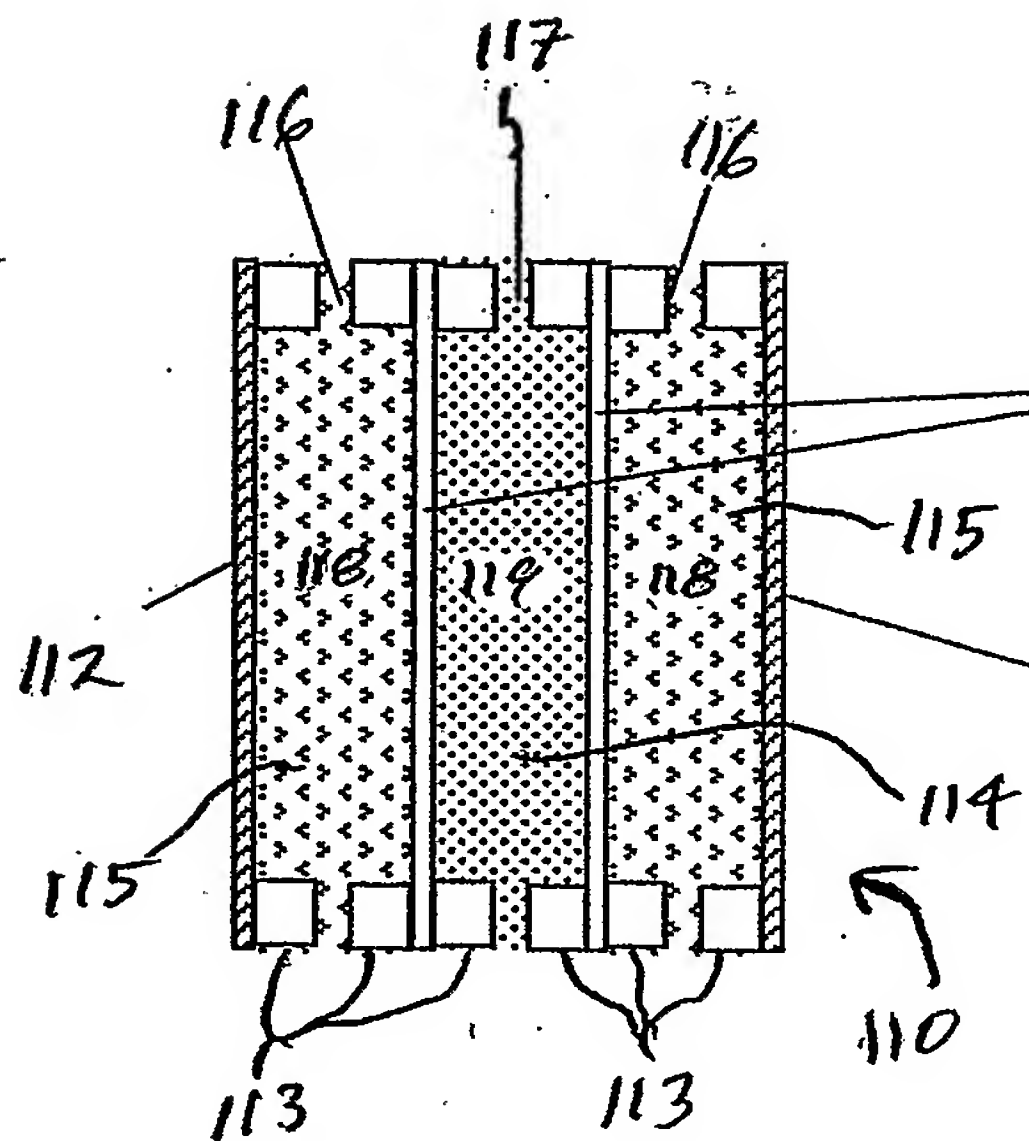


Fig. 12a

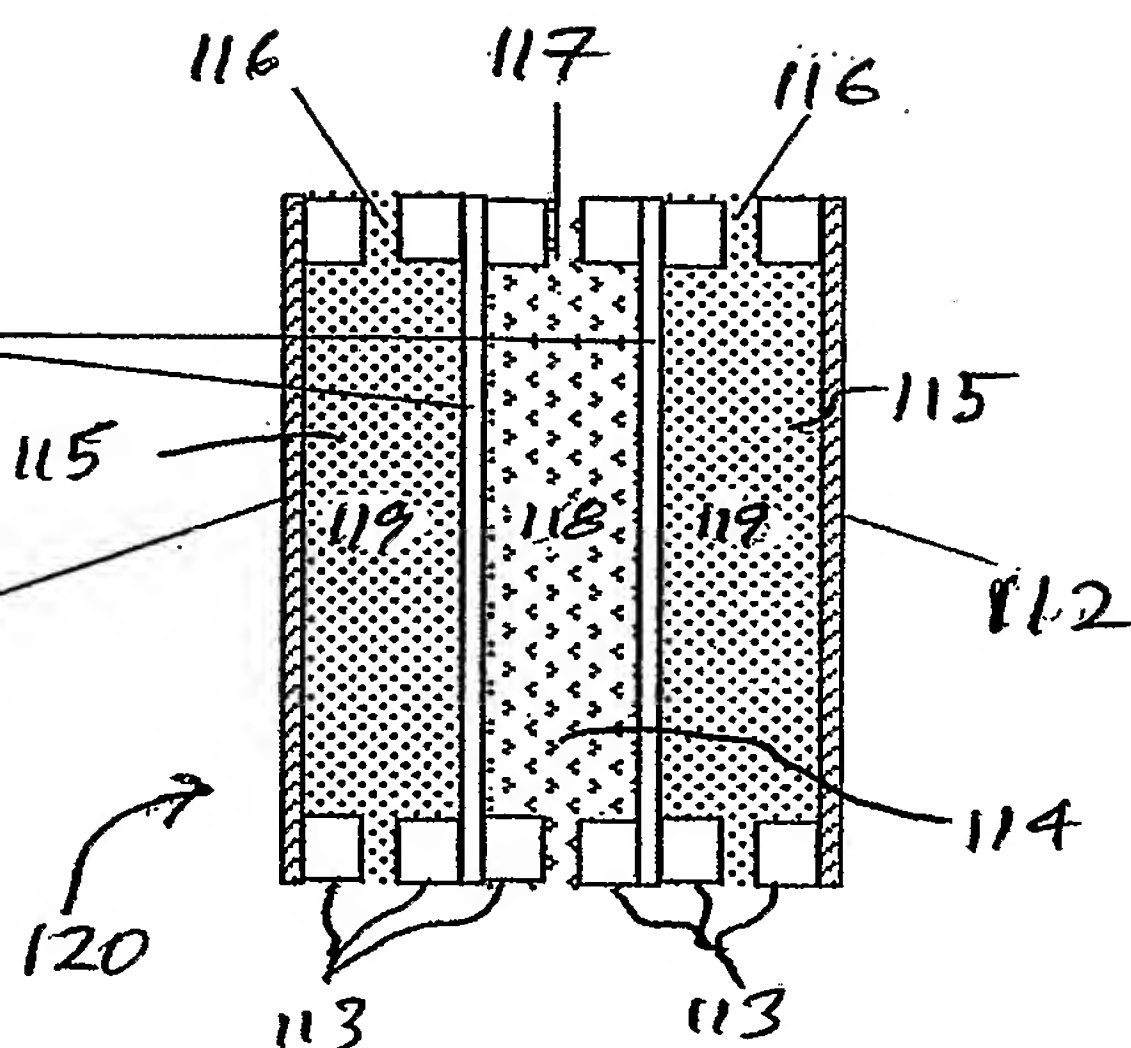


Fig. 12b

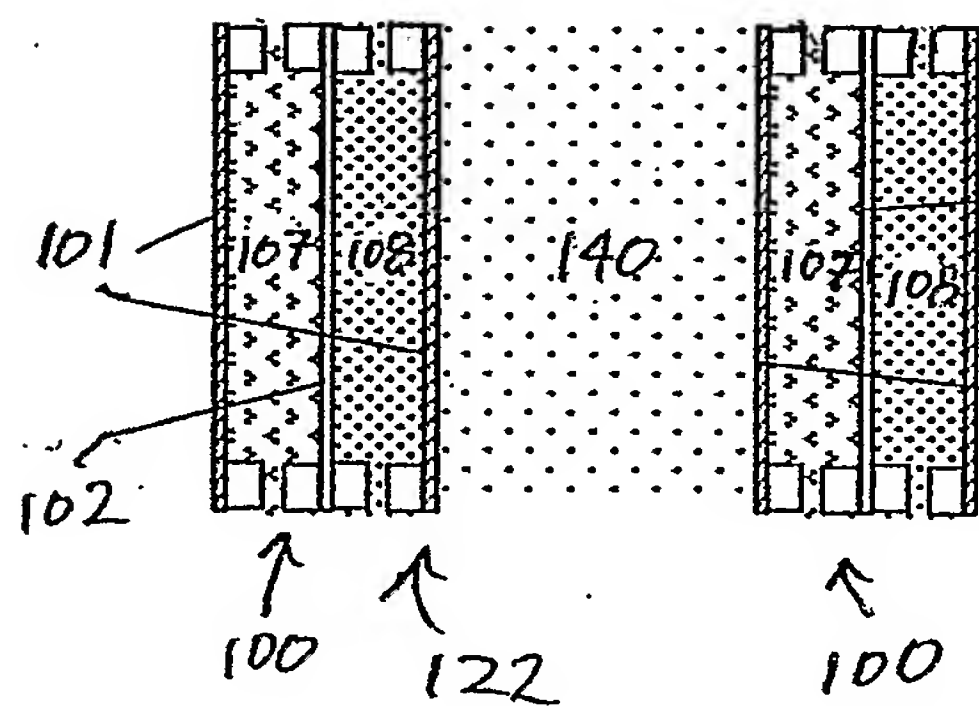


Fig. 13a

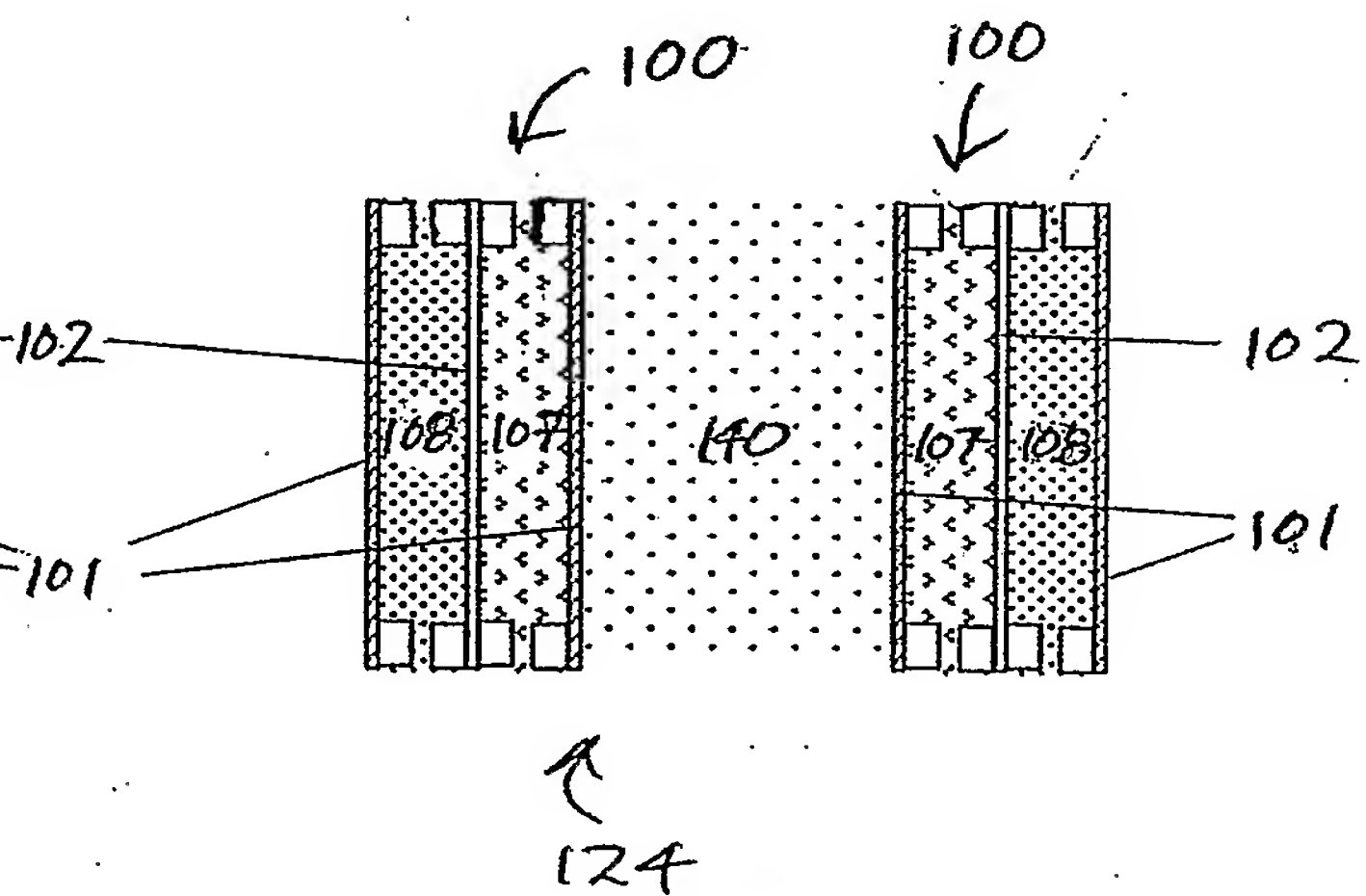
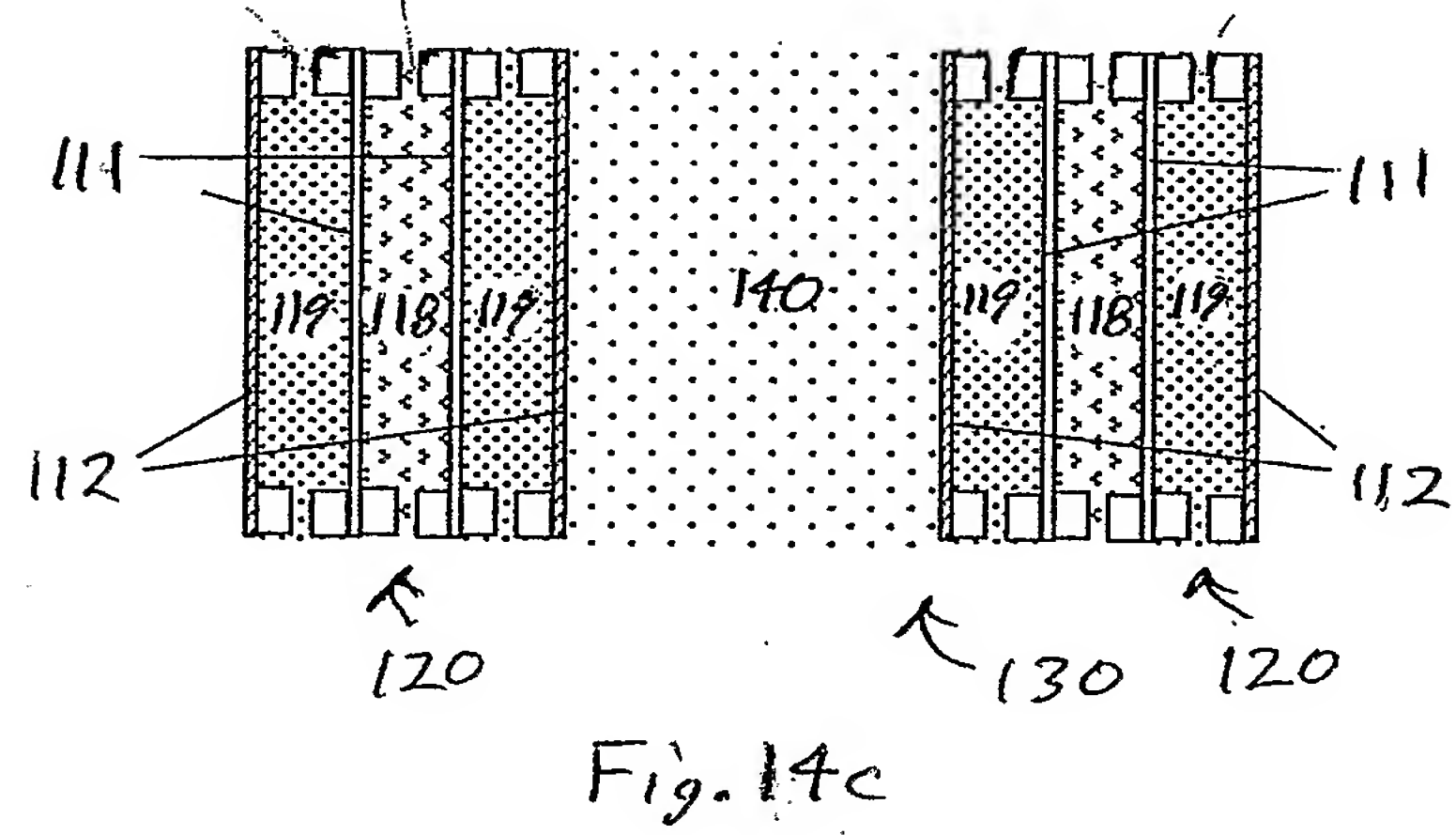
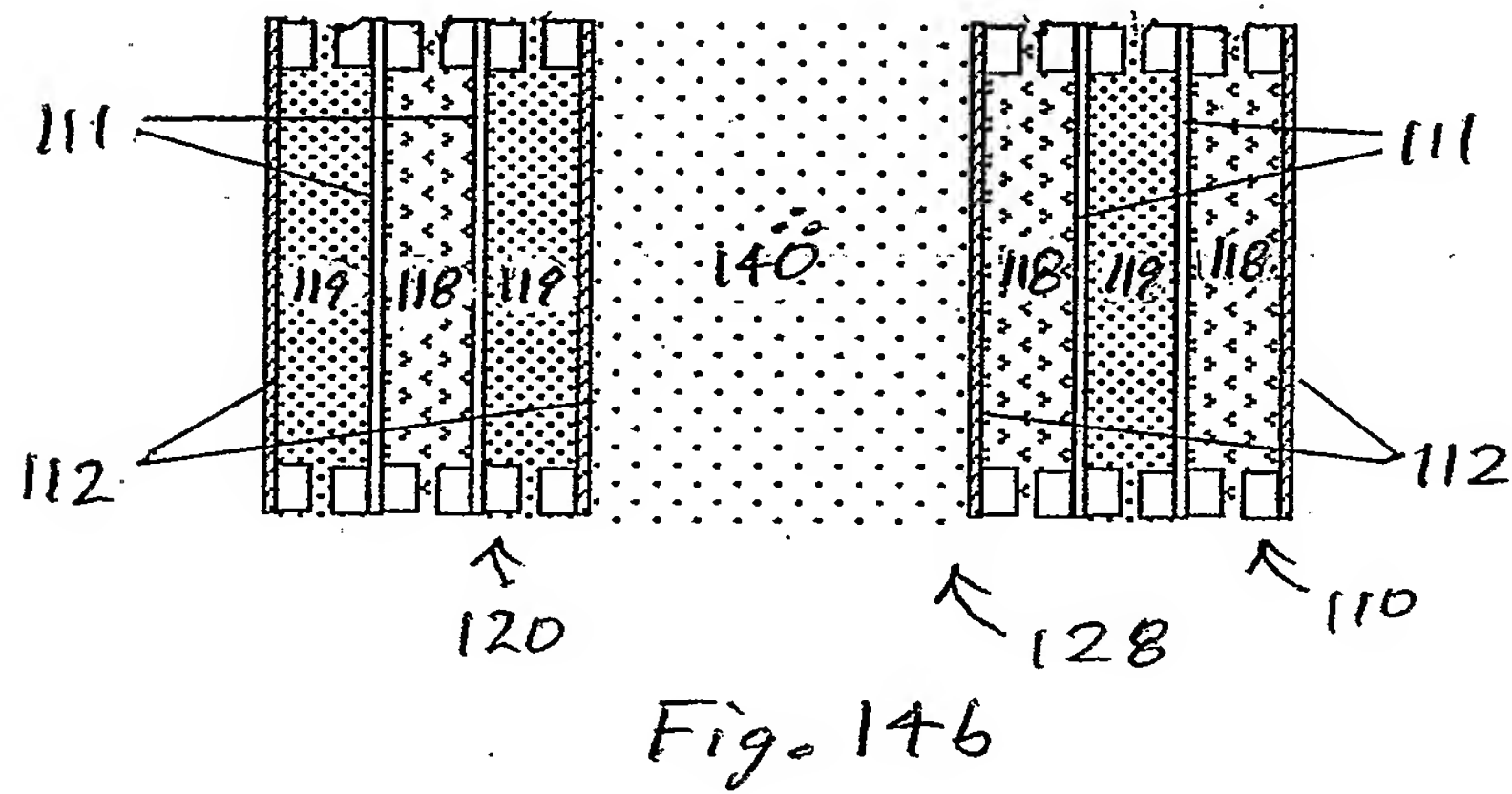
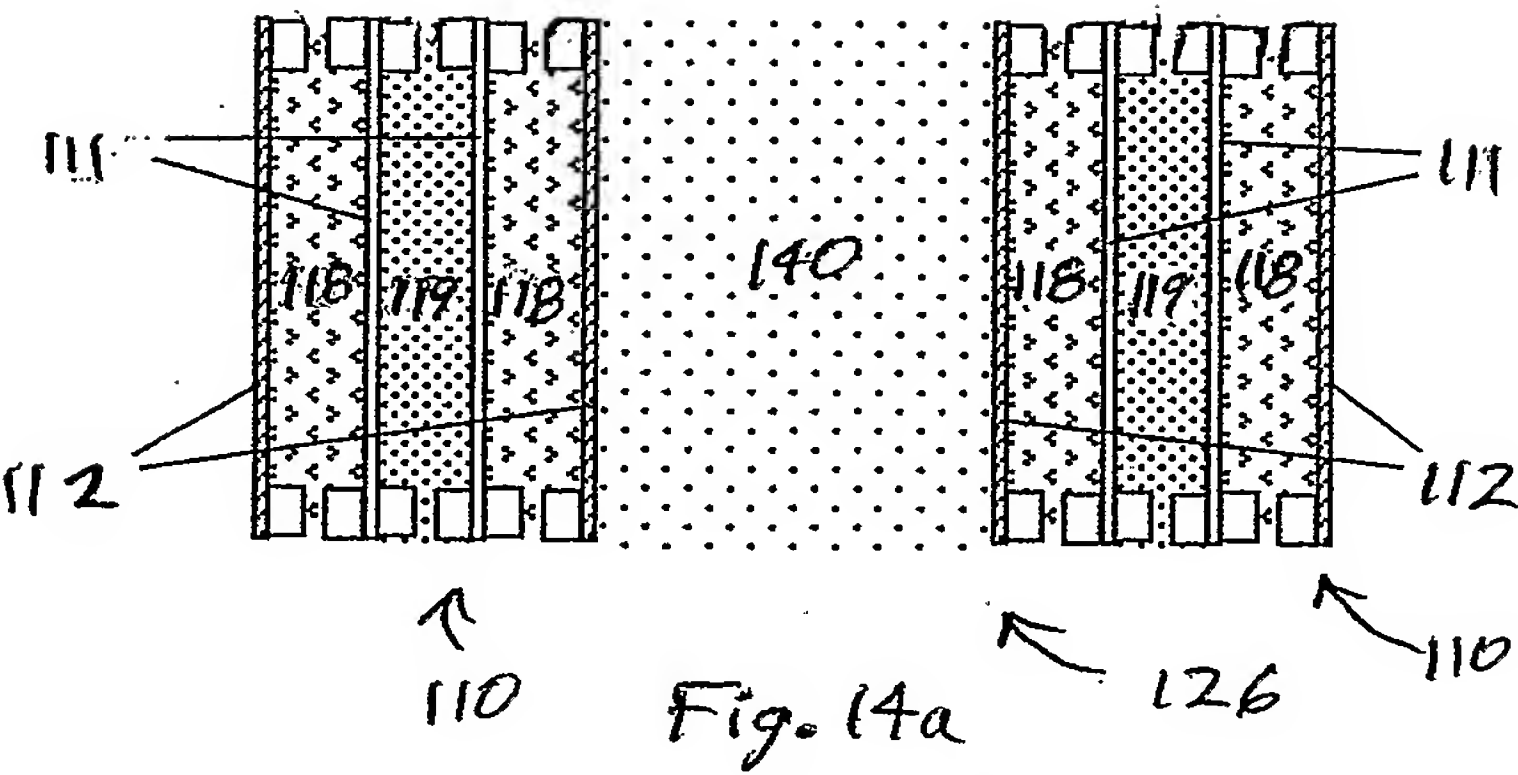


Fig. 13b



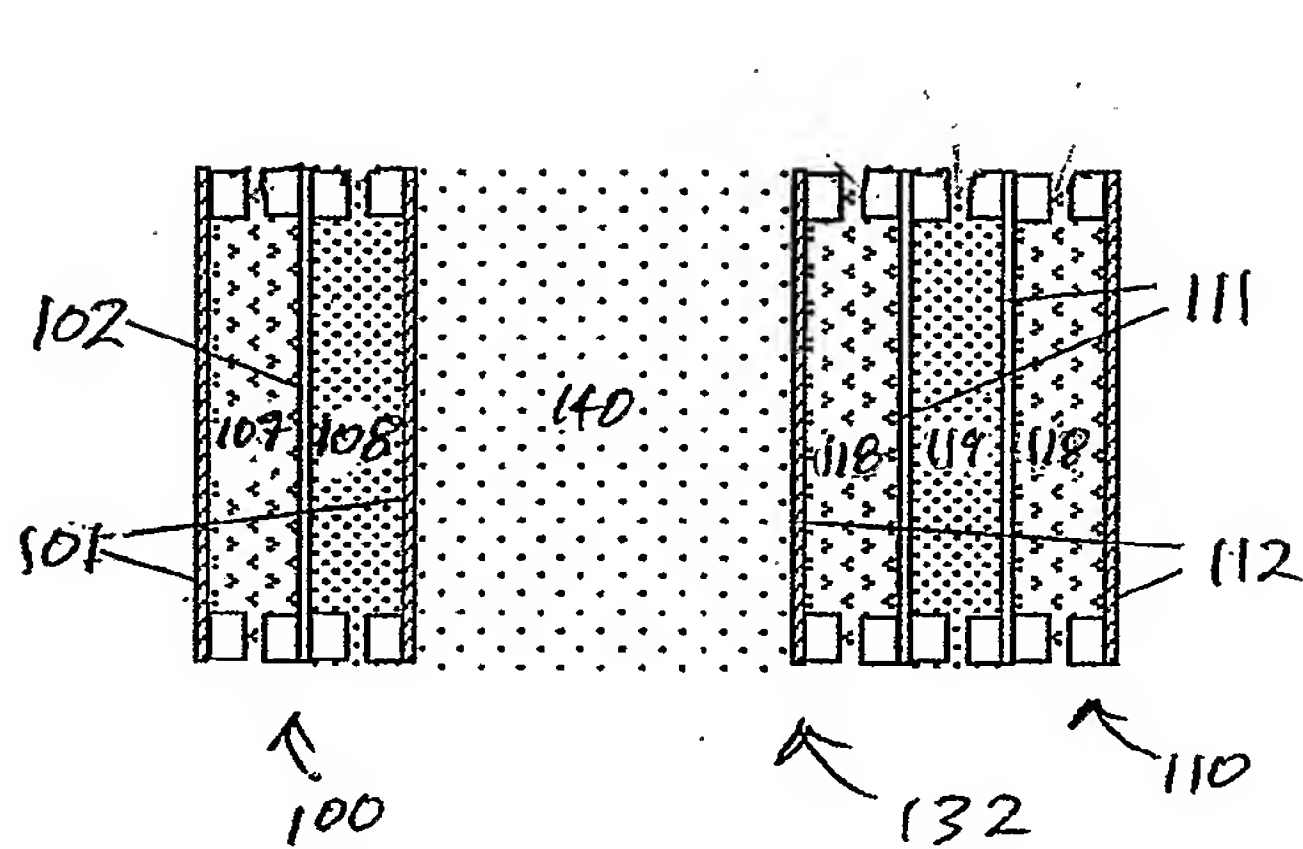


Fig. 15a

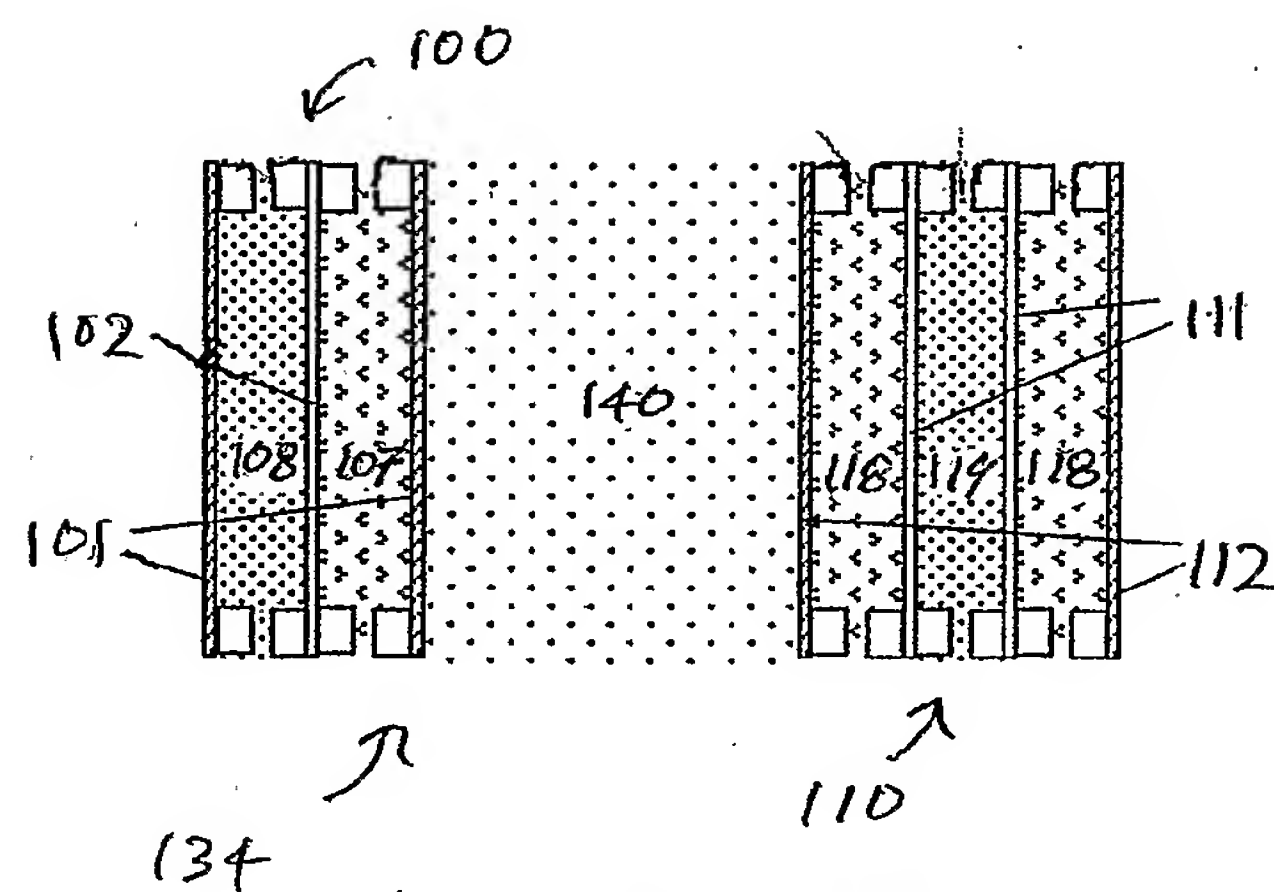


Fig. 15b

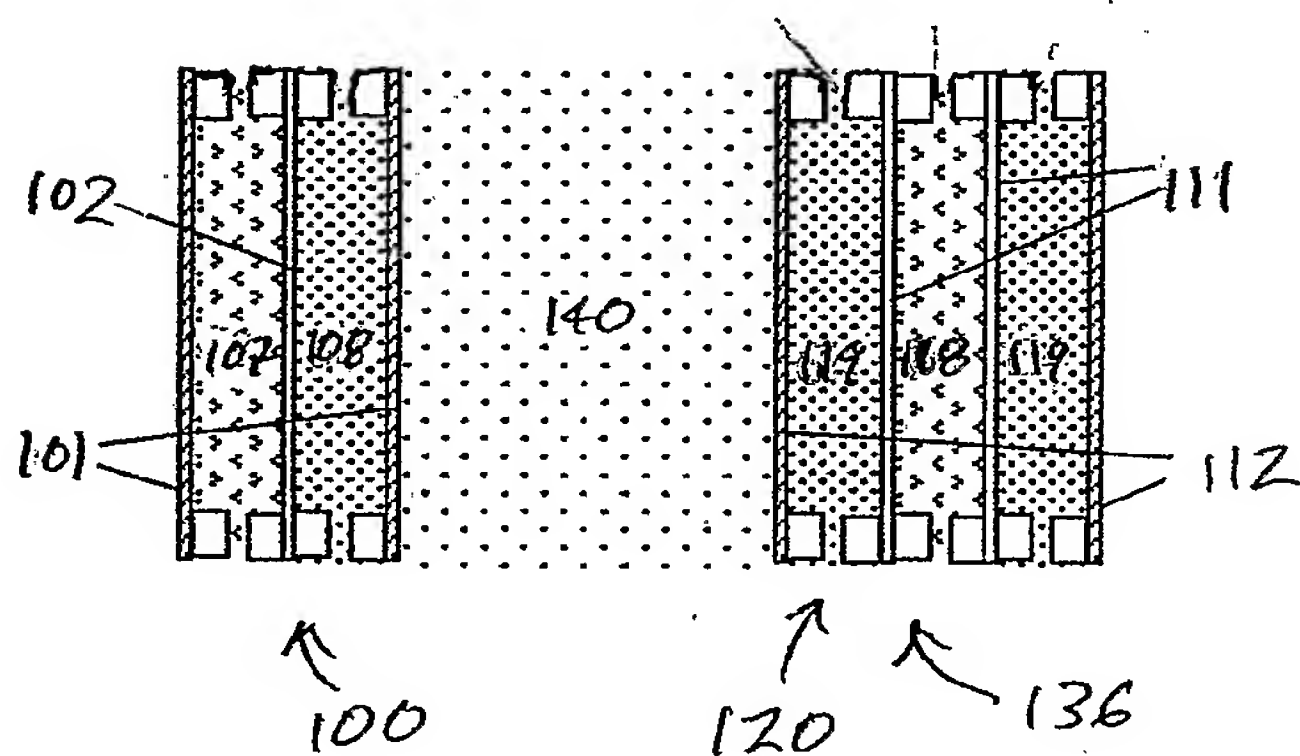


Fig. 15c

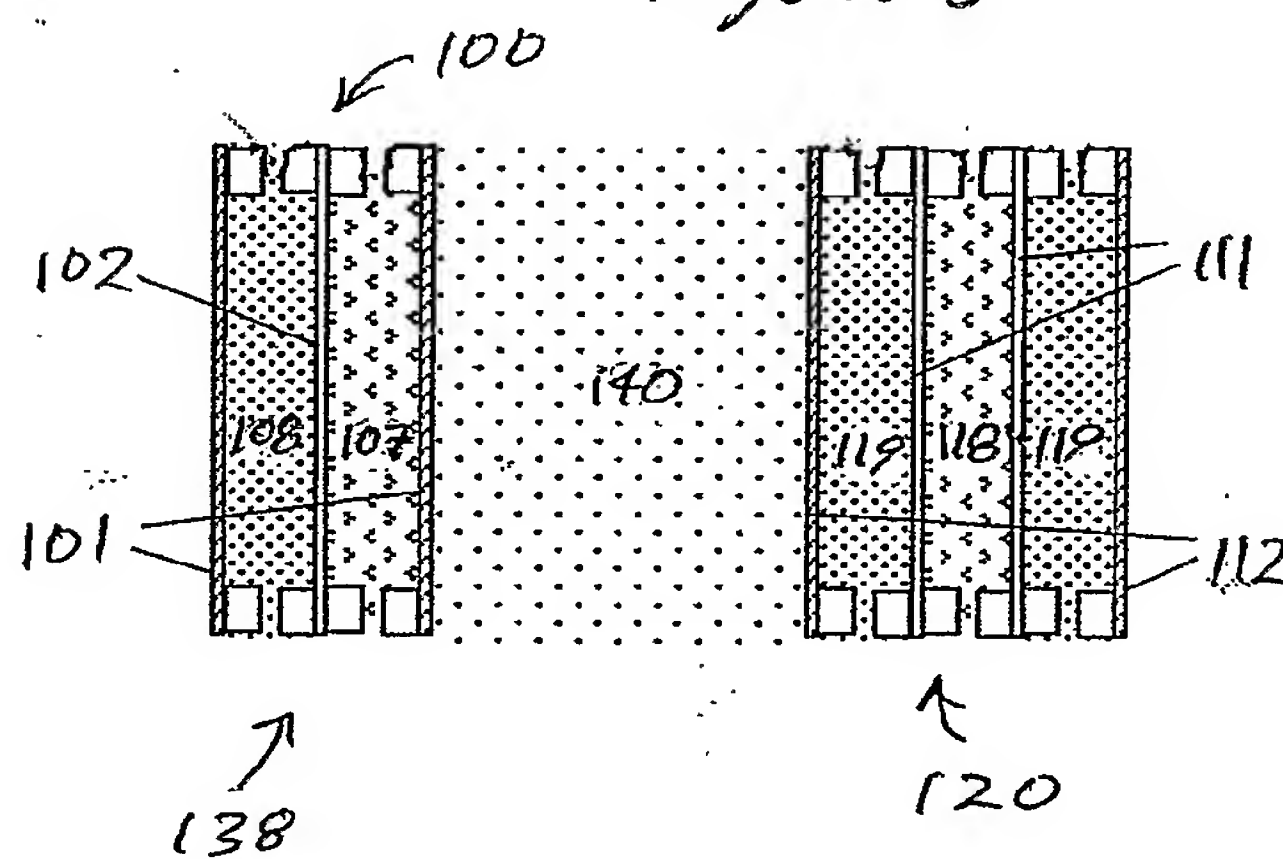


Fig. 15d

Fig. 16

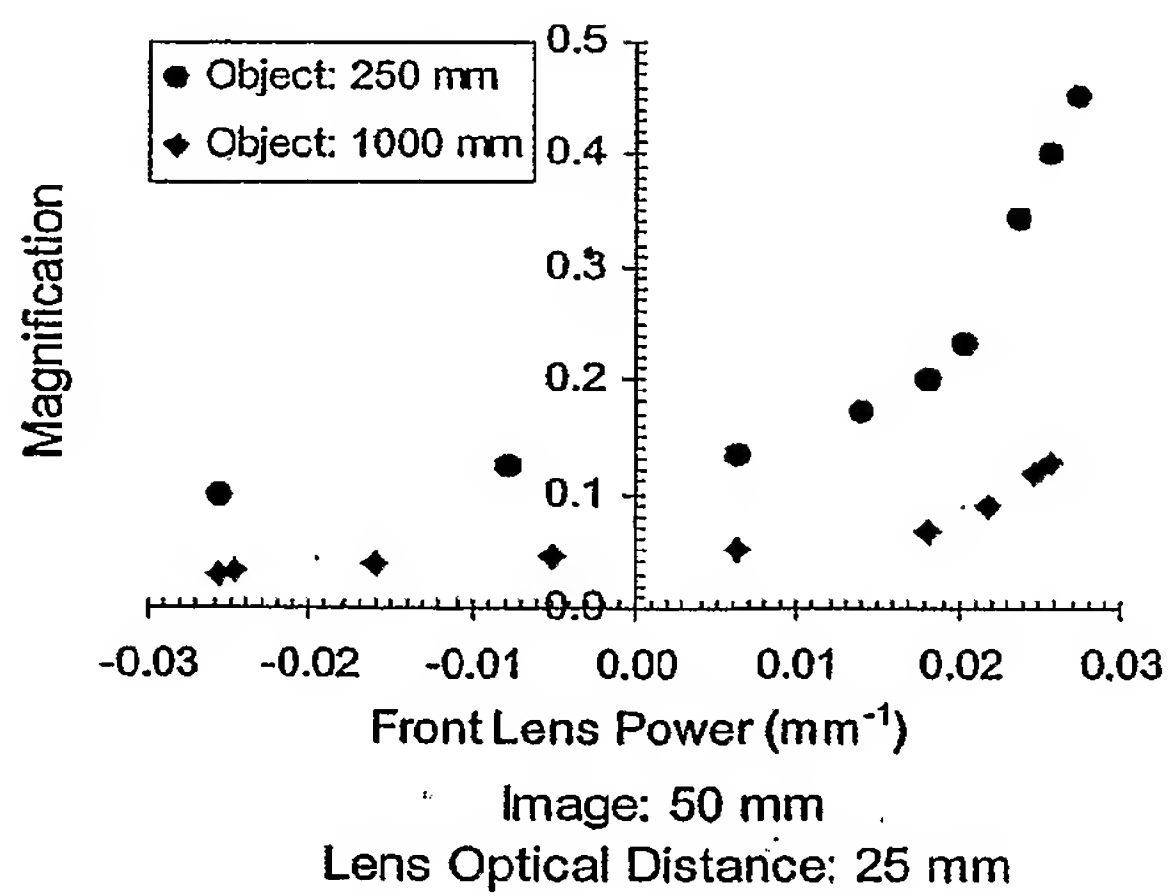


Fig. 17

